NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

DRAFT

F A C T S H E E T

(pursuant to NAC 445A.236)

Permittee: Union Oil Company of California
276 Tank Farm Road
P.O. Box 1069
San Luis Obispo, California 93406

Permit: NV0022420 - Renewal

Location: former Unocal Service Station 7313
101 North Decatur Blvd
Las Vegas, Clark County, Nevada 89107
Latitude: 36° 10' 30" N
Longitude: 115° 12' 23" W
Township 20S, Range 60E, Section 19 MDB&M

Flow: 30 Gallons per minute – Daily Maximum and 30-Day Average
(0.043 million gallons per day)

General: The Permittee has applied for a National Pollutant Discharge Elimination System (NPDES) permit renewal, NV0022420, to continue to discharge treated groundwater to the Las Vegas Wash via the Clark County storm drain system. This permit was originally issued September 5, 1994 and renewed in August 1998.

Unocal Service Station 7313 was located at 101 North Decatur Boulevard, Las Vegas, Clark County, Nevada 89107, the intersection of North Decatur Boulevard and Nebraska Avenue. The service station has been demolished. All structures, pumps and tanks related to the operation of the service station have been removed from the site. The site is currently a vacant lot.

The groundwater is contaminated with petroleum hydrocarbons due to a gasoline leak from an underground storage tank. The existing recovery/remediation system, constructed in October 1995, includes two 20-foot deep, 24-inch diameter galvanized, corrugated metal sumps within a 17-foot deep, gravel filled recovery trench; a sediment filter; a 500-gallon surge tank; and a shallow tray air stripper system. The approximately 195-foot recovery trench extends along the eastern and southern perimeters of the property. The treated effluent is discharged to a storm drain inlet via a 2-inch PVC pipe. The soil treatment system was installed in July 1996 and includes vapor extraction and thermal oxidation. The Bureau of Corrective Actions, Nevada Division of Environmental Protection will continue to regulate the soil and groundwater remediation activities at this site.

The Permittee is considering replacing the groundwater remediation system with a mobile treatment system and conducted a pilot test, without discharge under this permit, earlier this year.

Description of Discharge: The groundwater contaminated with petroleum hydrocarbons is pumped from the recovery trench sumps through the sediment filter and the shallow tray air stripper. The treated effluent is discharged into the storm drain that empties into the Las Vegas Wash. The treatment system is designed to treat the extracted petroleum hydrocarbon contaminated groundwater to concentrations at or below State remediation standards prior to discharge to waters of the State.

There has been no discharge from this facility since August 13, 2003. The system was shut down in mid-January and February 2003 for street and sewer construction. Based on limited 2003 and complete 2002 data, benezene, toluene, total xylenes, ethylbenezene, methyl tertiary butyl ether (MTBE), total petroleum hydrocarbons (TPH), and total nitrogen (TN) were not detected in the discharge. Total Dissolved Solids (TDS) was present at a concentration of 2,080 mg/L with a 2002 average concentration of 2,023 mg/L. The 2002 total phosphorus concentration ranged from non-detect to 0.095 mg/L with an average concentration of 0.037 mg/L. The 2002 pH value was 7.9 SU and ranged from 7.5 SU to 8.92 SU in 2002. There was no discharge in February 2003; the average discharge for the other five months of the first half of 2003 was 0.03 gpm. The 2002 average daily discharge was 0.48 gpm with a maximum daily value of 1.78 gpm.

The Division's Compliance Database lists no discharge limitation exceedances from the first quarter of 2002, the earliest entry for this permit, through the first quarter of 2003 and the third quarter of 2003; no discharge limitation exceedances for the second quarter of 2003 with failure to analyze for pH, TN, TDS, MTBE, total phosphorus (TP), total Kjeldahl nitrogen, and total nitrate/nitrite. A review of earlier discharge monitoring reports identified six exceedances of the 1.0 mg/L TPH limit, once each in 1999 and 2000, and four times in 2001; four exceedances of the 40 ug/L MTBE limit, once in 2000 and three times in 2001; and two exceedances of the 5 ug/L benzene limit, once each in 1998 and 2001. No other exceedances were reported.

Receiving Water Characteristics: The receiving water for the treated groundwater is the Las Vegas Wash via the Clark County storm drain system. The beneficial uses of the Upper Las Vegas Wash as cited at NAC 445A.198 include irrigation, watering of livestock, recreation not involving contact with the water, maintenance of a freshwater marsh, propagation of wildlife, and propagation of aquatic life, excluding fish. The establishment of a fishery is not precluded. Water quality standards for the Upper Las Vegas Wash are specified at NAC 445A.199.

Proposed Effluent Limitations: Samples and measurements taken in compliance with the monitoring requirements specified below shall be taken from:

i. the flow meter downgradient of the air stripper;
ii. the sample port on the discharge line downgradient of the air stripper; and
iii. the sample port between the sediment filter and the air stripper.

The discharge and influent shall be limited and monitored by the Permittee as specified below:

Table 1: Discharge Limitations

PARAMETERS	EFFLUENT DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	30-Day Average	Daily Maximum	Sample Location	Measurement Frequency	Sample Type
Flow, gpm	30	30	i.	Continuous	Flow meter
VOC EPA Method 8260 (report all parameters), µg/L	Monitor & Report		iii.[1]	Annually[2]	Discrete
Benzene, µg/L	---	5	ii.	Monthly	Discrete
Ethlybenzene, µg/L	---	100	ii.	Monthly	Discrete
Toluene, µg/L	---	100	ii.	Monthly	Discrete
Xylenes, Total, µg/L	---	200	ii.	Monthly	Discrete
Total Petroleum Hydrocarbons[3], mg/L	---	1.0	ii.	Monthly	Discrete
Methyl tertiary butyl ether, µg/L	---	20	ii.	Monthly	Discrete

PARAMETERS	EFFLUENT DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
Total Inorganic Nitrogen as N, mg/L	---	20	ii.	Quarterly	Discrete
Total Dissolved Solids, mg/L	Monitor and Report		ii.	Quarterly	Discrete
Total Phosphorus as P, lb/day	< 1.0[4]		ii.	Quarterly	Discrete
pH, SU	6.5 ≤ pH ≤ 9.0		ii.	Quarterly	Discrete

Notes:

1: Compounds identified in the annual influent VOC analysis shall be monitored and reported in the effluent on a monthly frequency until it is demonstrated that all detected VOCs are no longer present in the influent.
2: To be analyzed in the fourth quarter and submitted to the Division with the Annual Report.
3: Purgable and extractable ranges.
4: Effluent discharge limitation applies April through September, only.

mg/L:	Milligram per liter.	µg/L:	Micrograms per liter.
gpd:	Gallons per day.	P:	Phosphorus.
N:	Nitrogen.	VOC:	Volatile organic compound.
SU:	Standard units.		

Rationale for Permit Requirements: Monitoring requirements for the parameters specified in Table 1 above have been established to ensure that the receiving water, the Las Vegas Wash, is not degraded as a result of the Permittee's discharge of treated groundwater. Monitoring is required to assess the level of treatment being provided and to assure that the treated groundwater will not impact the beneficial uses of Las Vegas Wash.

Flow: The 30-day average and daily maximum flow effluent discharge limitations, both 30 gpm, are based on the values requested by the Permittee. The treatment system has the capacity to treat a flow in excess of the permit discharge limitations.

Total Petroleum Hydrocarbons: The shallow groundwater in the vicinity of the recovery system was contaminated by a gasoline leak from an underground storage tank. The 1.0 mg/L TPH limit is the State standard for remediation projects.

Volatile Organic Compounds (VOC): The shallow groundwater in the immediate area of the former service station is impacted by petroleum hydrocarbons containing VOCs. The VOCs that have been detected in the treatment system influent are listed in Table 1: Discharge Limitations. The benzene 5 µg/L, ethylbenzene 100 µg/L, toluene 100 µg/L, and total xylenes 200 µg/L daily maximum limitations are the State standards for remediation projects.

Annual analysis of the EPA Method 8260 influent VOCs is required to verify that no VOCs have been drawn to the site by the Permittee's recovery of hydrocarbon contaminated groundwater.

The previous permit was issued before the Division adopted 20 µg/L as the action level for MTBE in groundwater for sites in close proximity to receptors and/or sensitive environments. This groundwater standard is being used for all surface waters. The 40 µg/L MTBE discharge limitation in the current permit is proposed to be reduced to the action level in the draft permit.

Total Dissolved Solids (TDS): NAC 445A.199 includes a single value at 180ºC TDS standard for beneficial uses of ≤ 3,000 mg/L. The discharge has met this standard every monitoring. The TDS concentration of the discharge

has ranged from approximately 1,900 mg/L to 2,800 mg/L. The shallow groundwater with naturally occurring

elevated TDS levels would flow to the Wash, if it was not intercepted by the dewatering system, therefore, the TDS standard is not applied to dewatering discharges in this area.

This permit is for the interception and passage of groundwater and thus is exempted under the Colorado River Basin Salinity Control Forum's policy on groundwater interception.

Total Inorganic Nitrogen as Nitrogen (TIN): NAC 445A.199 includes a requirement to maintain existing higher quality TIN standard of 95% of the samples ≤ 20.0 mg/L. The previous permit required monitoring of total nitrogen (TN), not TIN.

Total Nitrogen as N: The TN as N effluent discharge limitation, 20 mg/L, of the current permit has been eliminated from the proposed permit because the NAC 445A.199 TIN standard was incorrectly applied to TN.

pH: NAC 445A.199 includes a single value pH water quality standard for beneficial uses within the range of 6.5 – 9.0 SU.

Total Phosphorus as Phosphorus: In 1987, a TP total maximum daily load (TMDL) of 434 lb/day was established for the Las Vegas Bay/Wash. The waste load allocations (WLAs) set are applicable for only April through September and were based on a target concentration of 0.64 mg/L. WLAs have been assigned only to the Cities of Las Vegas and Henderson and the Clark County Water Reclamation District.

Based on the State's de minimis policy of exempting discharges of less than 1 lb/day TP from the TMDL analysis, a WLA has not been assigned to this permittee. At the maximum permitted flow of 0.043 MGD, the groundwater TP concentration would have to exceed 2.78 mg/L to violate the 1 lb/day of the de minimis policy.

Total Suspended Solids (TSS): NAC 445A.199 includes a TSS water quality standard for beneficial uses of ≤ 135 mg/L. Due to the low TSS in groundwater and the filtering of the influent, TSS monitoring of the discharge is not required by the permit.

Schedule of Compliance: The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications that the Administrator may make in approving the schedule of compliance.

-Within forty-five (45) days of the first discharge under this permit, the Permittee shall submit a revised Operations and Maintenance Manual stamped by a Nevada licensed Professional Engineer to the Division for review and approval.

Proposed Determination: The Division has made the tentative determination to issue the proposed permit for a period of five (5) years.

Procedures for Public Comment: Notice of the Division's intent to issue a permit authorizing the facility to continue to discharge to surface waters of the State of Nevada subject to the conditions contained within the permit, is being sent to the **Las Vegas Review Journal** for publication. The notice is also being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing until 5:00 P.M. September 24, 2005, a period of 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the Applicant, any affected state, any affected interstate agency, the Regional Administrator of EPA Region IX or any interested agency, person

or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted. Any public hearing determined by the Administrator to be held will be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted to accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.238

Prepared by: Bruce Holmgren
August 2005